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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,234	07/26/2000	Keishi Nishikubo	49762(868)	7950

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EXAMINER

NGUYEN, JIMMY H

ART UNIT PAPER NUMBER

2673

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,234

Applicant(s)

NISHIKUBO ET AL.

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's papers filed on 07/26/2000. Claims 1-8 are currently pending in the application. An action follows below:

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features, "positive-side (high level) voltage resistance division ratios and negative-side (low level) voltage resistance division ratios are set so as to be asymmetrical with one another depending on level shift characteristics" recited in claim 1, and "resistance division ratios are optimized depending on gray scale characteristics" recited in claim 2, must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims above, since the disclosure of the pending application does not provide expressly the definition of the claimed features, "positive-side (high level) voltage resistance

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division ratios” and “negative-side (low level) voltage resistance division ratios” as recited in independent claim 1, and “resistance division ratios” as recited in independent claim 2, it is not clear what the Applicants mean “positive-side (high level) voltage resistance division ratios and negative-side (low level) voltage resistance division ratios are set so as to be asymmetrical with one another depending on level shift characteristics” recited in independent claim 1, and “resistance division ratios are optimized depending on gray scale characteristics” recited in independent claim 2. Furthermore, the term "optimized" in claim 2 is a relative term which renders the claim indefinite. The term "optimized" is not defined by the claim 2, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For example, what the resistance division ratios must be so as to be considerably optimized depending on gray scale characteristics.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding to claims 1, 3, 5 and 7, the disclosure, when filed, does not contain sufficient information regarding to the claimed feature, “positive-side (high level) voltage resistance division ratios and negative-side (low level) voltage resistance division ratios are set so as to be asymmetrical with one another depending on level shift characteristics”, of independent claim 1

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as to enable one skilled in the pertinent art to make and use the claimed invention. The disclosure, page 27 line 7 through page 28, line 13, discloses that the output voltage of the source driver at each gray scale level must be set so as to be vertically symmetrical (specifically at page 27, lines 13-14) and the resistance values of the series resistors for generating the positive-side gray scale voltages are set vertically asymmetrical with the resistance values of the series resistors for generating the negative-side gray scale voltages in consideration of the correction of the level shift characteristic (specifically at page 28, lines 8-13). However, the disclosure does not contain such description and details how the positive-side (high level) voltage resistance division ratios and negative-side (low level) voltage resistance division ratios are set so as to be asymmetrical with one another depending on level shift characteristics, as recited in independent claim 1, e.g., the resistance values of the series resistors being variable or fixed to predetermined resistance values, and what the relationships of the resistance values of the series resistors and the voltage resistance division ratios are, so as to enable one skilled in the pertinent art to make and use the claimed invention. See MPEP 608.01(p).

Regarding to claims 2, 4, 6 and 8, the disclosure, when filed, does not contain sufficient information regarding to the claimed feature, “resistance division ratios of the resistance-type voltage division circuit are optimized depending on gray scale characteristics”, of independent claim 2 as to enable one skilled in the pertinent art to make and use the claimed invention. The disclosure, page 27 line 21 through page 28, line 13 and page 29, lines 10-12, discloses that the resistance values of the series resistors are set in consideration of the correction of the level shift characteristic (specifically at page 28, lines 8-13) and the level shift depends on the gray scale voltages (specifically at page 29, lines 10-12). However, the disclosure does not contain such

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description and details how the resistance division ratios are optimized depending on gray scale display characteristics, as recited in independent claim 2, e.g., the resistance values of the series resistors being variable or fixed to predetermined resistance values, and what the relationships of the resistance values of the series resistors and the resistance division ratios are, so as to enable one skilled in the pertinent art to make and use the claimed invention. See MPEP 608.01(p).

7. Because of the 112 rejections above, the following art rejections are based as best understood by examiner.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 2, 4, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamei et al. (USPN: 5,640,174, cited in IDS filed on 11/14/2001), hereinafter Kamei.

As per claims above, these claims are clearly anticipated by Kamei (see fig. 1, col. 1, lines 19-20, line 63, col. 2, lines 57-61 and lines 64-66, col. 3, lines 6-19 and lines 38-45, col. 4, lines 30-32, line 39 and lines 56-60, and col. 4, line 67 through col. 5, line 3).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 3, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamei, and further in view of Nitta et al (USPN: 6,275,207 B1), hereinafter Nitta.

As per claims above, these claims are similar to claims 2, 4, 6 and 8 above, see paragraph No. 9 above, except that these claims further recite the positive-side voltage resistance division ratios and negative-side voltage resistance division ratios being set to be asymmetrical with one another depending on level shift characteristics. As noting at col. 3, lines 6-19 and col. 4, line 67 through col. 5, line 5, Kamei further teaches that the positive-side voltage division ratios and negative-side voltage division ratios are set to be asymmetrical with one another depending on level shift characteristics. However, Kamei does not disclose expressly the positive-side voltage resistance division ratios and negative-side voltage resistance division ratios being set to be asymmetrical with one another. Accordingly, the difference between the invention defined in claims above and the Kamei reference is that Kamei discloses the voltage division ratios while the claimed invention recites the resistance division ratios. However, Nitta discloses expressly that changing the voltage division ratio is obtained by changing the resistance dividing ratio (col. 6, lines 9-67, specifically at lines 9-15 and lines 65-67). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize Nitta's teaching, i.e., changing the resistance division ratio instead of changing the voltage division ratio, in the device of Kamei because this would improve the display brightness and the variation characteristics of color displayed images, which are matched with a user's taste, as taught by Nitta (col. 1, lines 49-58 and col. 9, lines 46-51).

Conclusion

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12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Enomoto et al. (USPN: 5,796,379) discloses a related active matrix LCD device having a gray scale reference voltage generation circuit and a gray scale voltage generation circuit, see figs. 11 and 14.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN
March 6, 2003


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
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